

Separation Distances for Land Application of Manure from Open Feedlots & Confinement Feeding Operations, including SAFOs



Revised
January 2003
Effective 3/1/03

Iowa law requires that all manure from an animal feeding operation must be land applied in a manner that will not cause surface or groundwater pollution. Chapter 65 of the Iowa Administrative Code (IAC) contains rules that govern land application of manure, including the separation distances summarized in Tables 1, 2 and 3 below. The separation distances are required by law and must be maintained between the protected area and the area where manure is applied. Distances apply to the type of manure and the method of application that is used.

In 2002, changes in Iowa Law added water sources (see definition) and protected wetlands as designated areas. Other changes required incorporation to occur on the same date as application (see Table 2).

CAUTION: This document is only a summary of administrative rules contained in 567 IAC chapter 65; it is a guidance document and should not be used as replacement for the administrative rules. While every effort has been made to assure the accuracy of this information, the administrative rules will prevail in the event of a conflict between this document and the administrative rules.

Table 1: Required separation distances (in feet) to buildings or public use areas by type of manure and method of manure application

Buildings or Public Use Areas	Dry Manure		Liquid Manure (except irrigated)		
	Surface Application		Direct Injection	Surface Application	
	Incorporated within 24 hours	Incorporated after 24 hrs. or not incorporated		Incorporated within 24 hrs.	Incorporated after 24 hrs. or not incorporated
<ul style="list-style-type: none"> residence church public use area business school 	0	0	0	0	750 ft. ¹

1. a) This separation distance applies only to liquid manure from confinement feeding operations. It does not apply to manure from open feed lots or dry manure. The required 750-foot separation distance also does not apply if any of the following exist:
 - 1) manure is injected or incorporated within 24 hours,
 - 2) a written waiver is issued by owner of the building or public use area benefiting from the required separation distance,
 - 3) manure comes from a small animal feeding operation (SAFO), or
 - 4) manure is applied by low pressure spray irrigation equipment (a 250-foot separation distance applies—see Table 3).
- b) Measure the separation distance from the applied manure to the closest point of buildings; and to the facilities where people congregate (for public use areas).

Table 2: Required separation distances (in feet) to designated areas by type of manure and method of manure application

Designated Areas	Dry Manure		Liquid Manure (except irrigated)		
	Surface Application		Direct Injection	Surface Application	
	Incorporated on same date	Not incorporated		Incorporated on same date	Not incorporated
<ul style="list-style-type: none"> sinkhole cistern designated wetland water source abandoned well drinking water well 	0	200 ft. ² (50 ft. with buffer ³)	0	0	200 ft. ² (50 ft. with buffer ³)
<ul style="list-style-type: none"> high quality water resource 	0	800 ft. ^{2, 4} (50 ft. with buffer ³)	0	0	800 ft. ^{2, 4} (50 ft. with buffer ³)
<ul style="list-style-type: none"> unplugged ag drainage well ag drainage well surface inlet 	0	200 ⁵	0	0	200 ⁵

2. The separation distance applies to both open feedlots and confinement feeding operations, regardless of size. The 200-foot or 800-foot separation distance does not apply if either of the following exist:
 - a) if manure is injected or incorporated on the same date as the manure was land applied, it can be applied up to the edge of the designated area, or
 - b) if a 50-foot buffer is established around a designated area, manure can be applied up to the edge of the buffer (except a 200-foot separation distance must be maintained around an unplugged ag drainage well or an unplugged ag drainage well surface inlet).
3. Do not apply manure in the vegetative buffer.
4. Check with the DNR to see if you are adjacent to a high quality water resource, because an 800-foot separation distance will apply.
5. Manure shall not be applied within 200 feet of an unplugged ag drainage well or unplugged ag drainage well surface inlet, unless injected or incorporated on the same date.

Table 3: Required separation distances (in feet) for land application of irrigated liquid manure

Protected Areas	Irrigated Liquid Manure	
	Low Pressure (≤ 25 psi)	High Pressure (> 25 psi)
Property Boundary Line	100 ft. ¹	100 ft. ¹
Buildings or Public Use Areas <ul style="list-style-type: none"> residence • business • church school • public use area 	250 ft. ²	750 ft. ³
Designated Areas <ul style="list-style-type: none"> sinkhole • abandoned well • designated wetlands cistern • drinking water well water source 	200 ft. (50 ft. with buffer ⁴)	200 ft. (50 ft. with buffer ⁴)
• high quality water resource	800 ft. ⁵	800 ft. ⁵
• unplugged ag drainage well • ag drainage well surface inlet • agricultural drainage well area (watershed)	No Irrigation Allowed ⁶	No Irrigation Allowed ⁶

- Maintain at least 100 feet between the wetted perimeter (per manufacturer's specifications) and the property boundary line where irrigation is being used, and the actual wetted perimeter shall not exceed the property boundary line.
 - If property includes a road right-of-way (ROW), a railroad ROW or an access easement, use the boundary of the ROW or easement as the property boundary line.
- This separation distance applies to liquid manure applied by low pressure spray irrigation equipment as defined below.
 - Measure the separation distance from the actual wetted perimeter of the manure to the closest point of buildings; and to the facilities where people congregate (for public use areas).
- This separation distance applies to liquid manure from a confinement feeding operation. It does not apply to manure from open feed lots or dry manure. The required 750-foot separation distance does not apply if any of the following exist:
 - manure is incorporated within 24 hours,
 - a written waiver is issued by the owner of the building or public use area benefiting from the required separation distance,
 - manure comes from a small animal feeding operation (SAFO), or
 - manure is applied by low pressure spray irrigation (a 250-foot separation distance applies).
 - Measure the separation distance from the actual wetted perimeter of the manure to the closest point of buildings; and to the facilities where people congregate (for public use areas).
- Do not apply manure in the vegetative buffer.
- Check with the DNR if you are adjacent to a high quality water resource, because an 800-foot separation distance will apply.
- No manure can be applied by spray irrigation equipment within an ag drainage well area. An ag drainage well area includes all land where surface or subsurface water drain to the well directly or through a drainage system connected to the well.

Recommended separation distance for land application of manure

Recommended, but not required: avoid application within 200 feet of (and draining into) a surface intake for a tile line.

Definitions

Buffer: consists of an area of permanent vegetation cover, including filter strips and riparian forest buffers, which exists for 50 feet surrounding the designated area other than an unplugged ag drainage well or surface intake to an unplugged ag drainage well. Do not apply manure in the vegetative buffer.

Designated area: includes a known sinkhole, or a cistern, abandoned well, unplugged agricultural drainage well, agricultural drainage well surface inlet, drinking water well, designated wetland, or water source. Designated areas do not include terrace tile inlets.

Designated wetland: means land owned by the U.S. Government or DNR and designated as a protected wetland by the Department of Interior or the DNR. It does not include land where an ag drainage well has been plugged causing a temporary wetland or land within a drainage or levee district.

High Quality Water Resource: means a high quality water or high quality resource water according Chapter 61 of the Iowa Administrative Code or a protected water area system as defined in Iowa Protected Water Areas General Plan (See list of high quality water resources by county.)

Low pressure spray irrigation equipment: discharges at a maximum pressure of 25 pounds per square inch (psi) and downward from a maximum height of nine feet.

Public use area: government-owned land (local, state or federal) with facilities that attract people for significant amounts of time (i.e. picnic grounds, campgrounds, shelters, lakes, etc.). Public use areas do not include highways, road right-of-ways, parking areas, recreational trails or similar areas that people pass through but do not congregate in. Note: cemeteries are included in public use areas, but may be privately owned or managed.

Small Animal Feeding Operation (SAFO): an animal feeding operation that has an animal unit capacity of 500 or fewer animal units.

Water source: a lake, river, reservoir, creek, stream, ditch, or other body of water or channel having definite banks and a bed with water flow, except lakes or ponds without outlet to which only one landowner is riparian.